Complete Summary

GUIDELINE TITLE

Standards of medical care in diabetes. V. Diabetes care.

BIBLIOGRAPHIC SOURCE(S)

American Diabetes Association (ADA). Standards of medical care in diabetes. V. Diabetes care. Diabetes Care 2006 Jan;29(Suppl 1):S8-17.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Standards of medical care in diabetes. V. Diabetes care. Diabetes Care 2005 Jan;28(suppl 1):S8-14.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Type 1 diabetes
- Type 2 diabetes
- Gestational diabetes

GUIDELINE CATEGORY

Management
Prevention
Treatment

CLINICAL SPECIALTY

Endocrinology
Family Practice
Internal Medicine
Nutrition
Obstetrics and Gynecology
Pediatrics
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Dietitians
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To provide evidence-based principles and recommendations for diabetes medical nutrition therapy
- To improve diabetes care by increasing the awareness of clinicians and persons with diabetes about beneficial nutrition therapies
- To provide clinicians, patients, researchers, payers, and other interested individuals with the components of diabetes care, treatment goals, and tools to evaluate the quality of care

TARGET POPULATION

- Adults and children with type 1 diabetes
- Adults and children with type 2 diabetes
- Pregnant and lactating women with diabetes
- Older adults with diabetes

INTERVENTIONS AND PRACTICES CONSIDERED

1. Complete medical evaluation, including medical history, physical examination, appropriate laboratory evaluations, and referrals to specialists
2. Formulation of a management plan
3. Patient education regarding self-monitoring of blood glucose (SMBG)
4. Hemoglobin A1C testing
5. Developing or adjusting management plans to achieve glycemic goals
6. Medical nutrition therapy (MNT)
    - Referral to dietician
    - Monitoring total grams and type of carbohydrate intake
    - Use of glycemic index/glycemic load
    - Low-carbohydrate diets (considered, but not recommended)
    - Limited protein intake for those with chronic kidney disease (CKD)
    - Limited saturated and trans fat intake
    - Weight loss for overweight patients through therapeutic lifestyle change
    - Drug therapy in selected patients

    - Nonnutritive sweeteners within acceptable levels
    - Limited daily alcohol intake
    - Routine supplementation with antioxidants (not advised)
    - Chromium supplementation (not recommended)
7. Diabetes self-management education (DSME)
8. Physical activity program
    - Graded exercise test with electrocardiogram (ECG) monitoring
9. Psychosocial assessment and care, including screening for psychosocial problems
10. Referral for diabetes management
11. Consideration of intercurrent illness
12. Glucose for hypoglycemia and glucagon for patients at risk for severe hypoglycemia
13. Immunization, including influenza and pneumococcal vaccines

MAJOR OUTCOMES CONSIDERED

- Blood glucose levels
- Hemoglobin A1C levels
- Blood lipid levels
- Blood pressure levels
- Rates of diabetes, macrovascular disease and vascular disease, obesity, dyslipidemia, cardiovascular disease (CVD), hypertension, and nephropathy
- Quality of life

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

American Diabetes Association's Evidence Grading System for Clinical Practice Recommendations

A

Clear evidence from well-conducted, generalizable, randomized controlled trials that are adequately powered, including:

- Evidence from a well-conducted multicenter trial
- Evidence from a meta-analysis that incorporated quality ratings in the analysis
- Compelling non-experimental evidence (i.e., "all or none" rule developed by the Center for Evidence Based Medicine at Oxford*)

Supportive evidence from well-conducted randomized, controlled trials that are adequately powered, including:

- Evidence from a well-conducted trial at one or more institutions
- Evidence from a meta-analysis that incorporated quality ratings in the analysis

*Either all patients died before therapy and at least some survived with therapy, or some patients died without therapy and none died with therapy. Example: use of insulin in the treatment of diabetic ketoacidosis.

B

Supportive evidence from well-conducted cohort studies, including:

- Evidence from a well-conducted prospective cohort study or registry
- Evidence from a well-conducted meta-analysis of cohort studies

Supportive evidence from a well-conducted case-control study

C

Supportive evidence from poorly controlled or uncontrolled studies, including:

- Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results
- Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls)
- Evidence from case series or case reports

Conflicting evidence with the weight of evidence supporting the recommendation

E

Expert consensus or clinical experience

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Recommendations have been assigned ratings of A, B or C, depending on the quality of evidence (see "Rating Scheme for the Strength of the Evidence"). Expert opinion (E) is a separate category for recommendations in which there is as yet no evidence from clinical trials, in which clinical trials may be impractical, or in which there is conflicting evidence. Recommendations with an "A" rating are based on large, well-designed clinical trials or well done meta-analyses. Generally, these recommendations have the best chance of improving outcomes when applied to the population to which they are appropriate. Recommendations with lower levels of evidence may be equally important but are not as well supported.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The recommendations were reviewed and approved in October 2005 by the Professional Practice Committee and, subsequently, by the Executive Committee of the Board of Directors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The evidence grading system (A-C, E) is defined at the end of the" Major Recommendations" field.

Diabetes Care

Initial Evaluation

A complete medical evaluation should be performed to classify the patient, detect the presence or absence of diabetes complications, assist in formulating a management plan, and provide a basis for continuing care. If the diagnosis of diabetes has already been made, the evaluation should review the previous treatment and the past and present degrees of glycemic control. Laboratory tests appropriate to the evaluation of each patient's general medical condition should be performed. A focus on the components of comprehensive care (see Table 5 in the original guideline document) will assist the health care team to ensure optimal management of the patient with diabetes.

Management

People with diabetes should receive medical care from a physician-coordinated team. Such teams may include, but are not limited to, physicians, nurse practitioners, physician's assistants, nurses, dietitians, pharmacists, and mental health professionals with expertise and a special interest in diabetes. It is essential in this collaborative and integrated team approach that individuals with diabetes assume an active role in their care.

The management plan should be formulated as an individualized therapeutic alliance among the patient and family, the physician, and other members of the health care team. Any plan should recognize diabetes self-management education (DSME) as an integral component of care. In developing the plan, consideration should be given to the patient's age, school or work schedule and conditions, physical activity, eating patterns, social situation and personality, cultural factors, and presence of complications of diabetes or other medical conditions. A variety of strategies and techniques should be used to provide adequate education and development of problem-solving skills in the various aspects of diabetes management. Implementation of the management plan requires that each aspect is understood and agreed on by the patient and the care providers and that the goals and treatment plan are reasonable.

Glycemic Control

Assessment of Glycemic Control

Self-monitoring of Blood Glucose

- Clinical trials using insulin that have demonstrated the value of tight glycemic control have used self-monitoring of blood glucose (SMBG) as an integral part of the management strategy. (A)
- SMBG should be carried out three or more times daily for patients using multiple insulin injections. (A)
- For patients using less frequent insulin injections or oral agents or medical nutrition therapy (MNT) alone, SMBG is useful in achieving glycemic goals. (E)
- To achieve postprandial glucose targets, postprandial SMBG may be appropriate. (E)
- Instruct the patient in SMBG and routinely evaluate the patient's technique and ability to use data to adjust therapy. (E)

Glycated Hemoglobin Test (A1C)

- Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control). (E)
- Perform the A1C test quarterly in patients whose therapy has changed or who are not meeting glycemic goals. (E)
- Use of point-of-care testing for A1C allows for timely decisions on therapy changes, when needed (E)

Glycemic Goals

- Lowering A1C has been associated with a reduction of microvascular and neuropathic complications of diabetes (A)
- The A1C goal for patients in general is an A1C goal of <7%. (B)
- The A1C goal for the individual patient is an A1C as close to normal (<6%) as possible without significant hypoglycemia. (E)
- Less stringent treatment goals may be appropriate for patients with a history of severe hypoglycemia, patients with limited life expectancies, very young children or older adults, and individuals with comorbid conditions. (E)
- Aggressive glycemic management with insulin may reduce morbidity in patients with severe acute illness, perioperatively, following myocardial infarction, and in pregnancy. (B)

Summary of Recommendations for Adults with Diabetes

Glycemic Control	
Hemoglobin (A1C)	<7.0%*
Preprandial capillary plasma glucose	90-130 mg/dL (5.0-7.2 mmol/L)
Peak postprandial capillary plasma glucose**	<180 mg/dL (<10.0 mmol/L)
Blood pressure	<130/80 mmHg
Lipids***	
Low-density lipoprotein (LDL)	<100 mg/dL (<2.6 mmol/L)
Triglycerides	<150 mg/dL (<1.7 mmol/L)
High-density lipoprotein (HDL)	>40 mg/dL (>1.1 mmol/L)****

Key concepts in setting glycemic goals:

- A1C is the primary target for glycemic control.
- Goals should be individualized.
- Certain populations (children, pregnant women, and elderly) require special considerations.
- More stringent glycemic goals (i.e., a normal A1C, <6%) may further reduce complications at the cost of increased risk of hypoglycemia.
- Less intensive glycemic goals may be indicated in patients with severe or frequent hypoglycemia.
- Postprandial glucose may be targeted if A1C goals are not met despite reaching preprandial glucose goals.

*Referenced to a nondiabetic range of 4.0 to 6.0% using a Diabetes Control and Complications Trial (DCCT)-based assay.
**Postprandial glucose measurements should be made 1 to 2 hours after the beginning of the meal, generally peak levels in patients with diabetes.
***Current National Cholesterol Educational Program/Adult Treatment Panel III (NCEP/ATPIII) guidelines suggest that in patients with triglycerides $\geq$200 mg/dL, the "non-HDL cholesterol" (total

cholesterol minus HDL) be utilized. The goal is ≤130 mg/dL).
****For women, it has been suggested that the HDL goal be increased by 10 mg/dL.

Medical Nutrition Therapy (MNT)

- People with diabetes should receive individualized MNT as needed to achieve treatment goals, preferably provided by a registered dietician familiar with the components of diabetes MNT. (B)
- Both the amount (grams) of carbohydrate as well as the type of carbohydrate in a food influence blood glucose level. Monitoring total grams of carbohydrate, whether by use of exchanges or carbohydrate counting, remains a key strategy in achieving glycemic control. (A)
- The use of the glycemic index/glycemic load may provide an additional benefit over that observed when total carbohydrate is considered alone. (B)
- Low-carbohydrate diets (restricting total carbohydrate to <130 g/day) are not recommended in the management of diabetes. (E)
- To reduce the risk of neuropathy, protein intake should be limited to the recommended dietary allowance (RDA) (0.8 g/kg) in those with any degree of chronic kidney disease (CKD). (B)
- Saturated fat intake should be <7% of total calories. (A)
- Intake of trans fat should be minimized. (E)
- Weight loss is recommended for all overweight (body mass index [BMI] 25.0 to 29.9 kg/m^2) or obese (BMI ≥30.0 kg/m^2) adults who have, or are at risk for developing, type 2 diabetes. (E)
- The primary approach for achieving weight loss is therapeutic lifestyle change, which includes a reduction in energy intake and an increase in physical activity. A moderate decrease in caloric balance (500 to 1,000 kcal/day) will result in a slow but progressive weight loss (1 to 2 lb/week). For most patients, weight loss diets should supply at least 1,000 to 1,200 kcal/day for women and 1,200 to 1,600 kcal/day for men. (E)
- Initial physical activity recommendations should be modest and based on the patient's willingness and ability, gradually increasing the duration and frequency to 30 to 45 minutes of moderate aerobic activity, 3 to 5 days per week (goal at least 150 min/week). Greater activity levels of at least 1 h/day of moderate (walking) or 30 min/day of vigorous (jogging) activity may be needed to achieve successful long-term weight loss. (E)
- Drug therapy for obesity and surgery to induce weight loss may be appropriate in selected patients. (E)
- Nonnutritive sweeteners are safe when consumed within the acceptable daily intake levels established by the U.S. Food and Drug Administration (FDA). (A)
- If adults with diabetes choose to use alcohol, daily intake should be limited to a moderate amount (one drink per day or less for adult women and two drinks per day or less for adult men); one drink is defined as 12 oz beer, 5 oz wine, or 1.5 oz distilled spirits. (A)
- Routine supplementation with antioxidants, such as vitamins E and C and beta-carotene, is not advised because of lack of evidence of efficacy and concern related to long-term safety. (A)
- Benefit from chromium supplementation in people with diabetes or obesity has not been conclusively demonstrated and, therefore, cannot be recommended. (E)

Diabetes Self-Management Education (DSME)

- People with diabetes should receive DSME according to national standards when their diabetes is diagnosed and as needed thereafter. (B)
- DSME should be provided by health care providers who are qualified to provide that DSME based on their professional training and continuing education. (E)
- DSME should address psychosocial issues, since emotional well-being is strongly associated with positive diabetes outcomes. (C)
- DSME should be reimbursed by third-party payors. (E)

Physical Activity

- To improve glycemic control, assist with weight maintenance, and reduce risk of cardiovascular disease (CVD), at least 150 min/week of moderate-intensity aerobic physical activity (50 to 70% of maximum heart rate) is recommended and/or at least 90 min/week of vigorous aerobic exercise (>70% of maximum heart rate). The physical activity should be distributed over at least 3 days/week and with no more than 2 consecutive days without physical activity. (A)
- In the absence of contraindications, people with type 2 diabetes should be encouraged to perform resistance exercise three times a week, targeting all major muscle groups, progressing to three sets of 8 to 10 repetitions at a weight that cannot be lifted more than 8 to 10 times. (A)

Indications for graded exercise test with electrocardiogram monitoring

- A graded exercise test with electrocardiogram (ECG) monitoring should be seriously considered before undertaking aerobic physical activity with intensity exceeding the demands of everyday living (more intense than brisk walking) in previously sedentary diabetic individuals whose 10-year risk of a coronary event is likely to be $\geq$10%.

Psychosocial Assessment and Care

- Preliminary assessment of psychological and social status should be included as part of the medical management of diabetes. (E)
- Psychosocial screening should include but is not limited to attitudes about the illness, expectations for medical management and outcomes, affect/mood, general and diabetes- related quality of life, resources (financial, social, and emotional) and psychiatric history. (E)
- Screening for psychosocial problems such as depression, eating disorders, and cognitive impairment is needed when adherence to the medical regimen is poor. (E)
- It is preferable to incorporate psychological treatment into routine care rather than to wait for identification of a specific problem or deterioration in psychological status. (E)

Referral for Diabetes Management

For a variety of reasons, some people with diabetes and their health care providers do not achieve the desired goals of treatment (see the table titled "Summary of recommendations for adults with diabetes", above). Intensification of the treatment regimen is suggested and includes identification (or assessment)

of barriers to adherence, culturally appropriate and enhanced DSME, management with a diabetes team, change in pharmacological therapy, initiation of or increase in SMBG, more frequent contact with the patient, and referral to an endocrinologist.

Intercurrent Illness

The stress of illness, trauma, and/or surgery frequently aggravates glycemic control and may precipitate diabetic ketoacidosis (DKA) or nonketotic hyperosmolar state. Any condition leading to deterioration in glycemic control necessitates more frequent monitoring of blood glucose and urine or blood ketones. A vomiting illness accompanied by ketosis may indicate DKA, a life-threatening condition that requires immediate medical care to prevent complications and death; the possibility of DKA should always be considered. Marked hyperglycemia requires temporary adjustment of the treatment program and, if accompanied by ketosis, frequent interaction with the diabetes care team. The patient treated with oral glucose-lowering agents or MNT alone may temporarily require insulin. Adequate fluid and caloric intake must be assured. Infection or dehydration is more likely to necessitate hospitalization of the person with diabetes than the person without diabetes. The hospitalized patient should be treated by a physician with expertise in the management of diabetes, and recent studies suggest that achieving very stringent glycemic control may reduce mortality in the immediate postmyocardial infarction period. Aggressive glycemic management with insulin may reduce morbidity in patients with severe acute illness.

Hypoglycemia

- Glucose (15 to 20 g) is the preferred treatment for hypoglycemia, although any form of carbohydrate that contains glucose may be used, and treatment effects should be apparent in 15 minutes. (E)
- Treatment effects on hypoglycemia may only be temporarily corrected. Therefore, plasma glucose should be tested again in approximately 15 minutes as additional treatment may be necessary. (B)
- Glucagon should be prescribed for all patients at significant risk of severe hypoglycemia and does not require a health care professional for its administration. (E)

Immunization

- Annually provide an influenza vaccine to all diabetic patients $\geq$6 months of age. (C)
- Provide at least one lifetime pneumococcal vaccine for adults with diabetes. A one-time revaccination is recommended for individuals >64 years of age previously immunized when they were <65 years of age if the vaccine was administered >5 years ago. Other indications for repeat vaccination include nephrotic syndrome, chronic renal disease, and other immunocompromised states, such as after transplantation. (C)

Definitions:

American Diabetes Association's Evidence Grading System for Clinical Practice Recommendations

A

Clear evidence from well-conducted, generalizable, randomized controlled trials that are adequately powered, including:

- Evidence from a well-conducted multicenter trial
- Evidence from a meta-analysis that incorporated quality ratings in the analysis
- Compelling non-experimental evidence (i.e., "all or none" rule developed by the Center for Evidence Based Medicine at Oxford*)

Supportive evidence from well-conducted randomized controlled trials that are adequately powered, including:

- Evidence from a well-conducted trial at one or more institutions
- Evidence from a meta-analysis that incorporated quality ratings in the analysis

*Either all patients died before therapy and at least some survived with therapy, or some patients died without therapy and none died with therapy. Example: use of insulin in the treatment of diabetic ketoacidosis.

B

Supportive evidence from well-conducted cohort studies:

- Evidence from a well-conducted prospective cohort study or registry
- Evidence from a well-conducted prospective cohort study
- Evidence from a well-conducted meta-analysis of cohort studies

Supportive evidence from a well-conducted case-control study

C

Supportive evidence from poorly controlled or uncontrolled studies, including:

- Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results
- Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls)
- Evidence from case series or case reports

Conflicting evidence with the weight of evidence supporting the recommendation

E

Expert consensus or clinical experience

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for the recommendations (see the "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

A focus on the components of comprehensive care will assist the health care team to ensure optimal management of the patient with diabetes.

POTENTIAL HARMS

Intensive glycemic control has been found to increase risk of severe hypoglycemia and weight gain.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Evidence is only one component of clinical decision-making. Clinicians care for patients, not populations; guidelines must always be interpreted with the needs of the individual patient in mind. Individual circumstances, such as comorbid and coexisting diseases, age, education, disability, and, above all, patient's values and preferences, must also be considered and may lead to different treatment targets and strategies. Also, conventional evidence hierarchies, such as the one adapted by American Diabetes Association, may miss some nuances that are important in diabetes care.
- While individual preferences, comorbidities, and other patient factors may require modification of goals, targets that are desirable for most patients with diabetes are provided. These standards are not intended to preclude more extensive evaluation and management of the patient by other specialists as needed.
- A major limitation to the available data is that they do not identify the optimum level of control for particular patients, as there are individual differences in the risks of hypoglycemia, weight gain, and other adverse effects. Furthermore, with multifactorial interventions, it is unclear how different components (e.g., educational interventions, glycemic targets, lifestyle changes, and pharmacological agents) contribute to the reduction of complications. There are no clinical trial data available for the effects of glycemic control in patients with advanced complications, the elderly ($\geq$65 years of age), or young children (<13 years of age).

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

In recent years, numerous health care organizations, ranging from large health care systems such as the U.S. Veteran's Administration to small private practices have implemented strategies to improve diabetes care. Successful programs have published results showing improvement in important outcomes such as A1C measurements and blood pressure and lipid determinations as well as process measures such as provision of eye exams. Successful interventions have been focused at the level of health care professionals, delivery systems, and patients. Features of successful programs reported in the literature include:

- Improving health care professional education regarding the standards of care through formal and informal education programs.
- Delivery of diabetes self-management education (DSME), which has been shown to increase adherence to standard of care.
- Adoption of practice guidelines, with participation of health care professionals in the process. Guidelines should be readily accessible at the point of service, such as on patient charts, in examining rooms, in "wallet or pocket cards," on personal digital assistants (PDAs), or on office computer systems. Guidelines should begin with a summary of their major recommendations instructing health care professionals what to do and how to do it.
- Use of checklists that mirror guidelines have been successful at improving adherence to standards of care.
- System changes, such as provision of automated reminders to health care professionals and patients, reporting of process and outcome data to providers, and especially identification of patients at risk because of failure to achieve target values or a lack of reported values.
- Quality improvement programs combining Continuous Quality Improvement (CQI) or other cycles of analysis and intervention with provider performance data.
- Practice changes, such as clustering of dedicated diabetes visits into specific times within a primary care practice schedule and/or visits with multiple health care professionals on a single day and group visits.
- Tracking systems either with an electronic medical record or patient registry have been helpful at increasing adherence to standards of care by prospectively identifying those requiring assessments and/or treatment modifications. They likely could have greater efficacy if they suggested specific therapeutic interventions to be considered for a particular patient at a particular point in time.
- A variety of non-automated systems, such as mailing reminders to patients, chart stickers, and flow sheets, have been useful to prompt both providers and patients.
- Availability of case or (preferably) care management services, usually by a nurse. Nurses, pharmacists, and other non-physician health care professionals using detailed algorithms working under the supervision of physicians and/or nurse education calls have also been helpful. Similarly dietitians using medical nutrition therapy (MNT) guidelines have been demonstrated to improve glycemic control.
- Availability and involvement of expert consultants, such as endocrinologists and diabetes educators.

Evidence suggests that these individual initiatives work best when provided as components of a multifactorial intervention. Therefore, it is difficult to assess the contribution of each component; however, it is clear that optimal diabetes management requires an organized, systematic approach and involvement of a coordinated team of health care professionals.

IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Diabetes Association (ADA). Standards of medical care in diabetes. V. Diabetes care. Diabetes Care 2006 Jan;29(Suppl 1):S8-17.

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Oct (revised 2006 Jan)

GUIDELINE DEVELOPER(S)

American Diabetes Association - Professional Association

SOURCE(S) OF FUNDING

The American Diabetes Association (ADA) received an unrestricted educational grant from LifeScan, Inc., a Johnson and Johnson Company, to support publication of the 2006 Diabetes Care Supplement.

GUIDELINE COMMITTEE

Professional Practice Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: Vivian Fonseca, MD, Chair; Evan M. Benjamin, MD; Lawrence Blonde, MD; Kenneth Copeland, MD; Marjorie L. Cypress, MS, RN, CDE; Hertzel C. Gerstein, MD, Msc, FRCPC; Irl Hirsch, MD; Steven Kahn, MB, ChB; Elizabeth Mayer-Davis, MS, PhD, RD; James Meigs, MD, MPH; Michael P. Pignone, MD, MPH; Janet H. Silverstein, MD; Geralyn R. Spollett, MSN, C-ANP, CDE; Judith Wylie-Rossett, RD, EdD; Nathaniel G. Clark, MD, MS, RD, Staff

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Standards of medical care in diabetes. V. Diabetes care. Diabetes Care 2005 Jan;28(suppl 1):S8-14.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Diabetes Association (ADA) Web site.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Introduction. Diabetes Care 29:S1-S2, 2006
- Strategies for improving diabetes care. Diabetes Care 29:S34-S35, 2006.

Electronic copies: Available from the American Diabetes Association (ADA) Web site.

The following is also available:

- 2006 clinical practice recommendations standards of care. Personal digital assistant (PDA) download. Available from the American Diabetes Association (ADA) Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on May 10, 2002. This summary was updated on July 29, 2003, March 23, 2004, July 1, 2005, and March 16, 2006.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 9/25/2006